## INTERNATIONAL SEARCH REPORT

Inte II Application No PCT/EP2004/052379

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 C07C1/04 B013 B01J23/75 B01J21/06 According to International Patent Classification (IPC) or to both national classification and IPC B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) C07C B01J IPC 7 Documentation searched other than minimum documentation to the extent that such documents are included. In the fields searched Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal C. DOCUMENTS CONSIDERED TO BE RELEVANT Citation of document, with indication, where appropriate, of the relevant passages Category 9 Relevant to claim No. X US 2003/181329 A1 (SANBAYASHI MASAYUKI ET 1-11,13AL) 25 September 2003 (2003-09-25) paragraphs '0221!, '0227! - '0229!: example 1 claims 1,14,16,17,58,61,62 χ US 2002/042449 A1 (NAKAMURA HIDENORI 1-6 AL) 11 April 2002 (2002-04-11) paragraphs '0002!, '0047! paragraphs '0074!, '0084!, '0091!; examples 9,10,comparative1-2 Further documents are listed in the continuation of box C. Patent family members are listed in annex. Special categories of cited documents: "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the \*A\* document defining the general state of the art which is not considered to be of particular relevance invention \*E\* earlier document but published on or after the international "X" document of particular relevance; the claimed invention filing date cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such docu-ments, such combination being obvious to a person skilled document referring to an oral disclosure, use, exhibition or other means document published prior to the international filing date but later than the priority date cialmed "&" document member of the same patent family Date of the actual completion of the international search Date of malling of the international search report 22 February 2005 02/03/2005 Name and mailing address of the ISA Authorized officer European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31–70) 340–2040, Tx. 31 651 epo nl, Fax: (+31–70) 340–3016 Holzwarth, A

## INTERNATIONAL SEARCH REPORT

Inte nal Application No
PC | / EP 2004 / 052379

|             |   | PC1/EP2004/0523/9     |  |  |
|-------------|---|-----------------------|--|--|
| C.(Continua | ation) DOCUMENTS CONSIDERED TO BE RELEVANT  |                       |  |  |
| Category °  | Citation of document, with indication, where appropriate, of the relevant passages  | Relevant to claim No. |  |  |
| х           | POTTIER, A. ET AL.: "Synthesis of brookite TiO2 nanoparticles by thermolysis of TiO4 in strongly acidic aqueous media" JOURNAL OF MATERIALS CHEMISTRY, vol. 11, 2001, pages 1116-1121, XP002275120 cited in the application page 1116, line 1, paragraph INTRODUCTION — line 10 figures 7,8 | 1-6                   |  |  |
| X           | EP 1 083 152 A (SHOWA DENKO KABUSHIKI<br>KAISHA) 14 March 2001 (2001-03-14)<br>paragraphs '0001!, '0002!<br>paragraph '0036!<br>paragraphs '0071!, '0080!; examples 1,13  | 1-6                   |  |  |
| X           | WO 97/00231 A (SHELL INT RESEARCH ;SHELL CANADA LTD (CA)) 3 January 1997 (1997-01-03) cited in the application the whole document   | 15                    |  |  |
| Α           | US 2002/107142 A1 (HATANAKA MIHO ET AL)<br>8 August 2002 (2002-08-08)<br>   | •                     |  |  |
|             |   |                       |  |  |
|             |   |                       |  |  |

## INTERNATIONAL SEARON INC. ON

Formation on patent family members

Intel 1al Application No PC 1/ cP2004/052379

|   |           |                     |    |                            | FC1/EF2004/0523/9 |                  |
|---|-----------|---------------------|----|----------------------------|-------------------|------------------|
| Patent document cited in search report                          |           | Publication<br>date |    | Patent family<br>member(s) |                   | Publication date |
| US 2003181329   | A1        | 25-09-2003          | US | 2004067849                 | A1                | 08-04-2004       |
|   |           |                     | AU | 2002361085                 |                   | 09-07-2003       |
|   |           |                     | CA | 2436747                    |                   | 11-07-2002       |
|   |           |                     | EP | 1354628                    |                   | 22-10-2003       |
|   |           |                     | ĒΡ | 1354854                    |                   | 22-10-2003       |
|   |           |                     | ΕP | 1462169                    |                   | 29-09-2004       |
|   |           |                     | WO | 02053285                   |                   | 11-07-2002       |
|   |           |                     | WO | 02053501                   |                   | 11-07-2002       |
|   |           |                     | WO | 03053576                   |                   | 03-07-2003       |
|   |           |                     | US | 2002187338                 |                   | 12-12-2002       |
|   |           |                     | US | 2002160910                 |                   | 31-10-2002       |
|   |           |                     | US | 2004171484                 |                   | 02-09-2004       |
|   |           |                     | US | 2005027039                 | A1                | 03-02-2009       |
|   |           |                     | JP | 2004243307                 |                   | 02-09-2004       |
| US 2002042449   | A1        | 11-04-2002          | AT | 263119                     |                   | 15-04-2004       |
|   |           |                     | ΑT | 214353                     |                   | 15-03-2002       |
|   |           |                     | DE | 69710975                   |                   | 18-04-2002       |
|   |           |                     | DE | 69710975                   |                   | 14-11-2002       |
|   |           |                     | DE | 69728452                   |                   | 06-05-2004       |
|   |           |                     | DE | 69728452                   |                   | 02-12-2004       |
|   |           |                     | EP | 1052224                    |                   | 15-11-2000       |
|   |           |                     | EP | 1408007                    |                   | 14-04-2004       |
|   |           |                     | EP | 0826633                    |                   | 04-03-1998       |
|   |           |                     | JP | 3524342                    |                   | 10-05-2004       |
|   |           |                     | JP | 11043327                   |                   | 16-02-1999       |
|   |           |                     | JP | 2003238158                 |                   | 27-08-2003       |
|   |           |                     | JP | 2004043304                 |                   | 12-02-2004       |
|   |           |                     | US | 2004146740                 |                   | 29-07-2004       |
|   |           |                     | US | 2001016264                 |                   | 23-08-2001       |
|   |           |                     | US | 6340711                    | B1                | 22-01-2002       |
| EP 1083152  | Α         | 14-03-2001          | CA | 2352345                    | A1                | 18-11-1999       |
|   |           |                     | EP | 1083152                    |                   | 14-03-2001       |
|   |           |                     | US | 6627336                    | B1                | 30-09-2003       |
|   |           |                     | CN | 1309621                    |                   | 22-08-2001       |
|   |           |                     | WO | 9958451                    |                   | 18-11-1999       |
| WO-9700231  | A -       | 03-01-1997          | AU | 698391                     |                   | 29-10-1998       |
|   |           |                     | AU | 6303396                    |                   | 15-01-1997       |
|   |           |                     | BR | 9608451                    |                   | 05-01-1999       |
|   |           |                     | CA | 2224690                    |                   | 03-01-1997       |
|   |           |                     | CN | 1187180                    |                   | 08-07-1998       |
|   |           |                     | DE | 69632189                   |                   | 19-05-2004       |
|   |           |                     | DK | 833807                     |                   | 17-05-2004       |
|   |           |                     | EA | 319                        |                   | 29-04-1999       |
|   |           |                     | MO | 9700231                    |                   | 03-01-1997       |
|   |           |                     | EP | 0833807                    |                   | 08-04-1998       |
|   |           |                     | ES | 2215194                    |                   | 01-10-2004       |
|   |           |                     | JP | 11507866                   |                   | 13-07-1999       |
|   |           |                     | NO | 975881                     |                   | 15-12-1997       |
|   |           |                     | NZ | 311669                     |                   | 23-12-1998       |
|   |           |                     | US | 5981608                    |                   | 09-11-1999       |
| ه در در در داد ادر در <sub>در د</sub> ر برد در در در در داد ادر |           |                     | ZA | 9605078                    | A                 | 23-01-1997       |
| JS 2002107142   | <b>A1</b> | 08-08-2002          | JP | 2002173370                 | A                 | 21-06-2002       |